



CAPITAL STRUCTURE AND FINANCIAL PERFORMANCE OF SERVICE SECTOR LISTED IN BSE SENSEX

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ABSTRACT

Capital structure is a blend of equity and debt which helps any corporation to make its financial performance better and competitive by using the correct mixture. This combination plays an integral part of any company's finance which can help them to outperform. This paper seeks to show association among capital structure & financial performance of the companies which come under the category of service sector which are listed on BSE SENSEX during a five year period (2016-17 to 2020-2021). The study sample consists of top 6 companies which are listed on BSE according to market capitalization excluding banking and financial companies. Data is gathered with the help of financial statements, balance-sheets of the companies with help of CMIE Prowess and analysed with the help of SPSS 20 and MS Excel. Regression analysis was used to observe the outcome of capital structure on financial performance of companies in which debt-equity ratio was taken as a proxy for capital structure and for measuring financial performance of corporation, return on equity is taken as proxy. The result reveals that debt equity ratio is negatively correlated with ROE, which means that capital structure has no impact on the financial performance of the top 6 companies and result of this study also proves the theory of Modigliani and Miller which under that capital structure have no impact on financial performance of different firms. The results of this study are greatly helpful for academic world and corporate for better decision making.

KEYWORDS: Capital structure, Service Sector, Financial Performance, Debt to Equity, Return on Equity, Companies.

1. INTRODUCTION:

The capital structure of any company is being analysed by checking the mixture of equity & debt by which any company can maximize its market value. Two essential decisions of any company are investing and financing since expansion of any firm depends upon the investment they make which transform into enhanced profits. For increasing their profits different firms use different combinations of owned and borrowed funds to make such investments (Banerjee & Dee, 2014). It is the duty of financial manager to determine the best capital structure for a firm to achieve maximum advantage of investment. Capital structure is made-up of its capitalisation which comprises of long-term capital assets such as loans, bonds, reserves and shares. The essential part lies in statement that divergent sources of capital have diverse risk-return characteristics. Several sources are extra risky but less costly and some are more costly but less risky (Jacob & VS, 2021).

Diverse mixtures of debt or equity capital can be used by different firms to finance their assets. The appropriate mixture consists of both equities and debentures at the same time. In some of the cases where interest is not tax deductible, the owners of the firms would not be much concerned as to whether they should use debt or equity but where interest is tax deductible, they would use 100% debt financing which will lead into maximizing the value of the firm (Azhagaiah & Gavoury, 2011).

Capital structure gained additional significance after successive publication of ground-breaking papers by Modigliani and Miller (1958, 1963). In 1958, MM explained that for influencing the value of firm in ideal capital market neither dividend policy nor capital structure plays an important role which they called as irrelevance model of capital structure (Modigliani & Miller, 1958). But later on in 1963 they added up that in imperfect market the value of firm due to impact by change in composition of debt and equity and highlighted that worth of a firm elevates with additional debt due to advantage of tax plus transaction cost, which they called as relevance model of capital structure (Modigliani & Miller, 1963).

So many researchers are still identifying the connection of capital structure with performance of firm; a number of them have highlighted a negative relation while others pointed out positive correlation between capital structure and performance of firm. Apart from that many papers hold remarkable relationships between firm performance and capital structure, while some of them referred to an insignificant relationship between both (Jacob & VS, 2021).

2. LITERATURE REVIEW:

The relationship between capital structure and financial performance always gives varied results, that some of the researchers found a positive relationship and some of them highlighted a negative relation for achieving optimal profits. Different viewpoints of different authors are discussed below:

Modigliani and Miller (1958) asserted that under certain conditions, the choice amid debt and equity does not affect the value of firm; consequently the capital structure decision is irrelevant when there is existence of perfect

market and absence of taxes and transaction costs.

Modigliani and Miller (1963) later on made some changes in their viewpoint and highlighted that in certain cases where imperfect market exists, the value of firm is affected by change in the ratio of debt as borrowings give a tax advantage, which helps in maximizing the financial performance of the firms.

Abor (2007) investigated that one of the significant decisions firms have to take is to choose its debt policy or capital structure. The result shows negative relation among all methods of capital structure and return on assets in Ghana but in case of South Africa the results highlighted optimistic relationship between ROA, short-term debt & trade credit. He also highlighted that results show a positive relation between Tobin Q's and short-term debt and trade credit but at the same time shows negative relationship between Tobin Q's and total-debt ratio and long-term debt.

Rao et al. (2007) explained the relationship of capital structure with financial performance in the Omani firms. They highlighted that in Oman there is a negative association between level of debt used and financial performance which shows high cost of borrowings and less acceptance of debt market in Oman.

Vätavu (2015) found that more profitable companies are those which maintain elevated ratio of equity in their capital mix, evading debt funds. The result showed that debt has a negative relationship with ROA and ROE whereas shareholder has positive impact on performance indicators, also taxes and inflation have positive impact on ROA.

Le and Phan (2017) investigated the effect of capital structure on performance of firm in Vietnam. Unbalanced panel data is used in all non-financial listed firms during the period 2007-2012 is used. They have tested the linear relationship between leverage and firm performance by using the ratios of total debt, long-term debt and short-term debt in both market value and book value are considerably negatively related to Tobin Q, ROE and ROA. While testing the non-linear connection amid capital structure and firm performance, they highlighted that this relationship only holds when performance is calculated by ROE and capital structure calculated by short-term debt & total-debt. Overall, study highlighted that capital structure is negatively affecting the performance of the firm.

Tirumalsety and Gurtoo (2019) examine the impact of financial sources on capital structure in social enterprises with the help of relationship between financial debt and its performance. Panel data analysis and multiple-regression was conducted on 207 enterprises which are the result of survey in 4 states in India. The result gives a mixed effect of social enterprises on financial performance showing that financial debt has no statistical influence on return on fixed assets and return on equity, financial debt-ratio is negatively influenced by return on capital employed but donor's capital invest-

ment is positively affected by financial debt-ratio of these social enterprises.

Kafle and Ghimire (2020) consider the effect of capital structure on financial performance of companies listed in BSE sensx during IGAAP and Ind AS period. Debt equity ratio (DER) and interest coverage ratio (ICR) are used as substitute for capital structure and ROE (return on equity), ROA (return on asset) are used as substitute for measuring financial performance of companies. The analysis was done with the help of correlation and regression, data was extracted with the help of annual report and highlighted that DER is negatively correlated with ROE and ROA during both periods, whereas ICR is positively associated with both ROE and ROA during the two periods. The degree of relationship is weak as only DER is significant predictor of financial performance of companies.

Malik and Singh (2020) analysed different multinational companies in India with the help of pilot study and found out that there is significant negative correlation which implies that when debt equity ratio is high, ROE is less and vice versa. They also underline that a higher D/E ratio means an adverse capital structure whereas a lower D/E ratio implies a better capital structure.

Jacob and VS (2021) tried to inspect the impact of capital structure on the financial performance of Pharmaceutical companies situated in India. The study is conducted for a period of 5 years i.e. 2016 to 2020 on top 5 pharmaceutical companies listed on BSE and NSE. Regression analysis was used to check the relationship which was calculated by debt-equity ratio & return on equity. Results showed that no significant relationship exists among financial performance and capital structure of certain pharmaceutical companies.

The above literature shows mixed relationship between capital structure and financial performance and can be split into two parts: one part of the empirical studies highlighted that capital structure and financial performance of the companies are positively related (Modiglian & Miller, 1963; Abor, 2007; Tirumalsety & Gurtoo, 2019; Kafle & Ghimire, 2020) and another part of the studies highlighted that there is negative relation between financial performance and capital structure (Rao et al., 2007; Le & Phan, 2017; Tirumalsety & Gurtoo, 2019; Kafle & Ghimire, 2020; Malik & Singh, 2020) and some studies highlighted that there is no significant relationship between capital structure and financial performance of the companies (Jacob & VS, 2021). Based on the pragmatic literature, it is clear that the relation between financial performance and capital structure are unconvincing and requires additional empirical work and number of studies in the service sector is very rare and through this paper the relationship between capital structure and financial performance of companies listed in service sector will be highlighted.

3. OBJECTIVES OF THE STUDY:

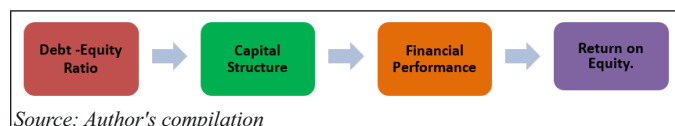
- To study relationship between capital structure and financial performance of service sector companies listed in BSE SENSEX.
- To investigate the influence of capital structure on the financial performance of BSE SENSEX service industry.

4. RESEARCH METHODOLOGY:

The study is based on the companies from service sector listed in BSE SENSEX. The data is gathered from secondary sources using financial statement of top 5 companies according to the market capitalization for period of 5 years i.e. 2016-17 to 2020-21.

Regression analysis was used for analysing the impact of capital structure on financial performance of the selected companies listed in BSE SENSEX. Two variables are used for measuring performance of the companies i.e. debt-equity ratio and return on equity.

Debt-equity ratio is considered as independent variable and ROE is considered as dependent variable for the study.



DER= Debt-Equity Ratio= Total Debt/ Equity.

DER is used as a proxy for capital structure.

ROE= Return on Equity = Net income/ Shareholder Equity.

ROE is used as a proxy for measuring financial performance of companies.

5. SAMPLE SIZE:

Top 6 companies in service sector in December 2021 from BSE SENSEX are used for study based on market capitalization excluding banking and financial companies.

1. NTPC Limited
2. HCL Technologies
3. Sun Pharmaceutical Industries Ltd.
4. Bharti Airtel
5. Power Grid Corporation of India
6. Tech Mahindra

6. DEBT-EQUITY RATIO:

(Jacob & VS, 2021) Debt-equity ratio is used to appraise the proportion of debt in company's assets. This ratio specifies the reliability of long-standing financial policies of the company. Higher the proportion, higher the amount of assets capitalized by the creditors other than from its own monetary sources. A ratio less than 1 indicates that more of assets are financed by equity and company have low chances of bankruptcy but higher ratio shows that companies are using more of debt which means they are aggressive in capitalizing its enlargement with debt which can lead to unpredictable revenues and adding extra expenses on the company. Figure 1 speaks for the ratio of debt-equity of top 6 companies of service sector listed in BSE SENSEX.

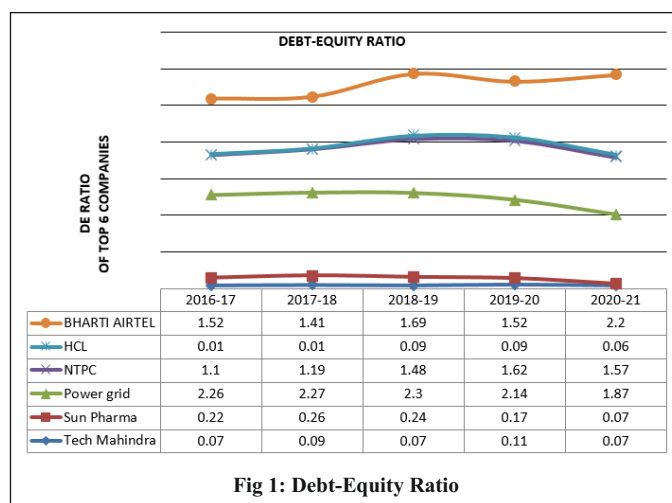


Fig 1: Debt-Equity Ratio

Table 1: Mean of Debt-Equity ratio

Companies	Mean
BHARTI AIRTEL	1.668
HCL TECHNOLOGIES	0.052
NTPC LTD	1.392
POWER GRID CORP	2.168
SUN PHARMACEUTICAL	0.192
TECH MAHINDRA	0.082

Source: Compiled by Author

The average performance of debt-equity ratio of top 6 companies listed in BSE SENSEX is presented with help of Table1. Performance of debt-equity ratio of some companies is < 1, presenting that all assets of the companies are more financed by equity which is indicating that companies are having low level of leverage and low risk of insolvency. The above study highlight that NTPC Ltd (1.392) and Bharti Airtel (1.668) has higher debt equity ratio as compared to other companies which means that significant amount for the potential growth is being financing through borrowings. HCL Technologies (0.052), Sun Pharmaceuticals (0.192) and Tech Mahindra (0.082) having low debt-equity ratio implying that these are favourable for the investment on basis of debt-equity ratio. Power Grid Corporation (2.168) shows higher level of debt which is above 2 which underlines that the company is using more debt and is more on verge of risk.

7. RETURN ON EQUITY:

Return on equity is used to measure how different companies are efficiently using its equity or amount contributed by the shareholders. ROE is a ratio which indicates that how company is turning its equity capital into net profits. ROE with higher value indicates that company is more efficient in utilizing investment option to grow their business. On the other hand, a lower ROE indicates that a company is not utilizing the different opportunities of investment and is mismanaged. Increasing value of ROE highlights that company is increasing its profits without needing of much funds (Jacob & VS, 2021).

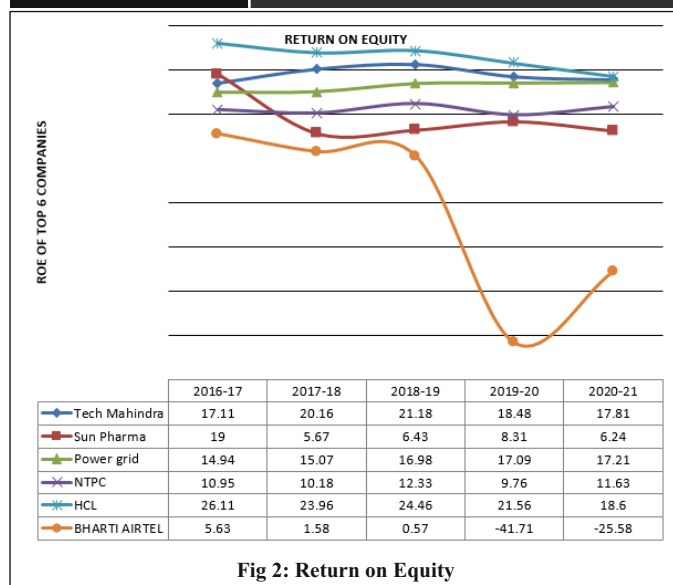


Fig 2: Return on Equity

Table 2: Mean of Return on Equity

Companies	Mean
BHARTI AIRTEL	-11.902
HCL TECHNOLOGIES	22.938
NTPC LTD	10.97
POWER GRID CORP	16.258
SUN PHARMACEUTICAL	9.13
TECH MAHINDRA	18.948

Source: Author's Compilation

Table 2 highlights that Power Grid Corp (16.258), Tech Mahindra (18.948) & HCL Technologies (22.938) have utmost average value of return on equity indicating that investors are making maximum profits which is showing good employment of equity capital. On the other side, Bharti-Airtel (-11.902), Sun Pharmaceuticals (9.13) and NTPC (10.97) having lower return on equity highlighting that they are reinvesting their earnings into unproductive assets.

8. IMPACT OF CAPITAL STRUCTURE ON FINANCIAL PERFORMANCE OF DIFFERENT COMPANIES:

The different tables discussed below shows the impact of capital structure on financial performance of companies listed under service sector of BSE30 and highlight whether the companies are significantly related to capital structure or not.

Table 3: Shows the impact of capital structure on Bharti Airtel's financial performance.

Method: Least Squares				
Dependent Variable : Airtel_ ROE				
VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	PROB.
S.E. Of Regression	22.58112	Durbin-Watson stat		2.061
R-Squared	0.111	Mean dependent var.		-11.9020
F-Statistic	0.374			
C	24.784	60.859	0.407	0.711
Prob (F-statistic)	0.584			
Sum squared resid	1529.721			
Airtel_DER	-21.966	35.980	-0.611	0.584
Adjusted R-Squared	-0.186	S.D. Dependent var.		20.73819

The influence of capital structure on Bharti Airtel's financial performance is shown in Table 3. The R square value is calculated to see how the debt-to-equity ratio affects return on equity. The R square value of 0.111 indicates that debt-equity ratio determines only 11.1 percent of return on equity, with the remaining variance of 88.9% accounted for by other factors not considered in the study. The study's significance level is also above 0.05, indicating that debt-equity ratio has no significant relationship with Bharti Airtel's financial performance.

Table 4: The Influence of Capital Structure on HCL Technologies' Financial Performance

Method: Least Squares				
Dependent Variable : HCL_ ROE				
VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	PROB.
S.E. Of Regression	3.03481	Durbin-Watson stat		1.359
R-Squared	0.191	Mean dependent var.		22.9380
F-Statistic	0.707			
C	24.586	2.384	10.311	0.002
Prob (F-statistic)	0.462			
Sum squared resid	27.630			
HCL_DER	-31.694	37.700	-0.841	0.462
Adjusted R-Squared	-0.079	S.D. Dependent var.		2.92146

Table 4 propounds that the significance level of the calculated statistics is above 0.05 which is not at all in favour and value of R square is calculated to examine the impact of capital structure on financial performance of HCL technologies, 0.191 calculated value of R square underlines that only 19.1% return on equity is determined by debt-equity ratio and remaining variance of 80.9% is explained by other factors which is not considered in the study, which highlights an insignificant relationship with financial performance of HCL technologies.

Table 5: The Influence of Capital Structure on NTPC Ltd's Financial Performance

Method: Least Squares				
Dependent Variable : NTPC_ ROE				
VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	PROB.
S.E. Of Regression	1.19722	Durbin-Watson stat		3.544
R-Squared	0.017	Mean dependent var.		10.9770
F-Statistic	0.051			
C	10.159	3.613	2.811	0.067
Prob (F-statistic)	0.835			
Sum squared resid	4.300			
NTPC_DER	0.583	2.567	0.227	0.835
Adjusted R-Squared	-0.311	S.D. Dependent var.		1.04568

The value of R-Squared is analysed to recognise the influence of debt-equity ratio on return on equity, according to Table 5. The value of R square is 0.017, indicating that the debt equity ratio is subscribed to achieve a 1.7 percent return on equity. Other factors, which were not assessed in this study, account for the remaining 98.3 percent of variance in ROE. Because the P value of the calculated statistics is above 0.05, which is negligible and does not produce a result in favour, the result of the regression revealed that the debt-equity ratio does not demonstrate a meaningful association with NTPC Ltd's financial performance.

Table 6: Influence of Capital Structure on Power Grid Corp Financial Performance.

Method: Least Squares				
Dependent Variable : Power grid_ ROE				
VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	PROB.
S.E. Of Regression	1.1000	Durbin-Watson stat		1.391
R-Squared	0.311	Mean dependent var.		16.2580
F-Statistic	1.354			
C	24.079	6.740	3.573	0.037
Prob (F-statistic)	0.329			
Sum squared resid	3.630			
Power Grid_DER	-3.608	3.100	-1.164	0.329
Adjusted R-Squared	0.081	S.D. Dependent var.		1.14764

Table 6 specifies the effect of capital structure on the financial performance of Power Grid Corp. The value of R square is 0.311 which depicts that 31.1% of return on equity is ascribed by the debt-equity ratio and remaining 68.9% is depicted with the other factors which are not considered in the study, as well the P value of the study is above 0.05, which is also insignificant for the study which means that return on equity has no impact on debt-equity ratio of power grid corporation.

Table 7: Influence of Capital Structure on Sun Pharma Financial Performance.

Method: Least Squares				
Dependent Variable : Sun Pharma_ROE				
VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	PROB.
S.E. Of Regression	6.38370	Durbin-Watson stat		1.637
R-Squared	0.027	Mean dependent var.		9.1300
F-Statistic	0.085			
C	6.783	8.558	0.793	0.486
Prob (F-statistic)	0.790			
Sum squared resid	122.255			
Sun Pharma_DER	12.223	42.020	0.291	0.790
Adjusted R-Squared	-0.297	S.D. Dependent var.		5.60587

Table 7 depicts the impact of Sun Pharma's capital structure on its financial performance. The estimate of R-squared is 0.027, indicating that the debt-equity ratio contributes 2.7 percent to the value of return on equity. Other factors account for the other 97.3 percent of variance in ROE. The regression results show a negative and insignificant link (P value is 0.790, which is greater than 0.05) between debt-equity and Sun Pharmaceuticals' financial performance, as the ratio is lower, indicating that the company is not overly reliant on debt to fund its assets.

Table 8: Influence of Capital Structure on Tech Mahindra Financial Performance.

Method: Least Squares				
Dependent Variable : Tech Mahindra_ROE				
VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	PROB.
S.E. Of Regression	1.94244	Durbin-Watson stat		1.635
R-Squared	0.002	Mean dependent var.		18.9480
F-Statistic	0.006			
C	18.594	4.536	4.099	0.026
Prob (F-statistic)	0.942			
Sum squared resid	11.319			
Tech mahindra_DER	4.313	54.293	0.079	0.942
Adjusted R-Squared	-0.331	S.D. Dependent var.		1.68397

Table 8 highlights the correlation between Tech Mahindra's return on equity and debt-equity ratio, in which only 0.2 percent of the value is determined by return on equity, while the remaining 99.8% is determined by other factors not ascribed in the study, and the study's P value is also above 0.05, indicating that the debt-equity ratio and return on equity ratio have no positive relationship and thus have no impact.

9. CONCLUSION:

The present research tries to associate the association between capital structure & financial performance of company's come under the category of service sector which are listed in BSE SENSEX. As capital structure decision is very important for any kind of industry or company because the decision of investors is based on debt equity mix. The objective of this study is to check the financial performance of top 6 companies listed in BSE SENSEX for 5 years i.e. 2016-17 to 2020-21 according to market capitalization and to check their impact of capital structure on different companies taken for research. The facts & figures for the current study are fetched from the annual reports, balance-sheet of the firms and regression analysis was performed to measure the relationship between capital structure & financial performance of companies taken for the study. Regression analysis is used to evaluate the relationship between capital structure and financial

performance with the help of Debt-Equity ratio and Return on Equity where return on equity is used to compute the financial performance of the companies and debt-equity is used as a proxy for measuring capital structure. The average value of debt equity and return on equity is computed to check whether which company is having less debt in 5 years because lesser debt shows less amount of risk and which company is having higher ratio of return on equity because higher the ratio of ROE, higher the chances of profits in the company. Regression analysis was performed using SPSS 20 and result shows negative relationship of capital structure and financial performance in different companies taken for the study.

The results are steady with some of the previous research which also highlighted negative results for measuring the financial performance of the companies with capital structure such as (Rao et al., 2007; Le & Phan, 2017; Tirumalsety & Gurtoo, 2019; Kafle & Ghimire, 2020; Malik & Singh, 2020). The study underlines that in service sector most of the companies listed on BSE 30 are negatively related with the debt-equity ratio and return on equity which is used as a proxy for computing financial performance of companies which is negatively related with the capital structure of service sector company and debt-equity ratio has no impact on financial performance of companies listed under service sector.

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